LOADSTAR LETTER #63

Web.It News

By Jeff Jones. Well — there isn't much. The Web.it will be exposed on the Comdex exhibition at the Aztech Systems' stand in Las Vegas between 16 and 20 November. The stand number will be S4006. Other than that, there is still frustrating Email and web page silence.

Chicago: The EXPO

By Todd S. Elliott. Roughly somewhere during the year of 1984, I got my V1CMODEM. With it, 1 got online to some great BBSes in metropolitan Miami area and made some long lasting online friendships. In 1990, while at college in Washington, D.C., I discovered comp.sys.cbm. Back then, the newsgroup was probably in its infancy and a whole new world of CBM 8-bit users opened up to me. During the past year or so, I finally got onto the IRC phenomenon and met actual CBM 8-bit users and chatted with them online in real-time. Thus, I've met a lot of dedicated CBM 8-bit users throughout the years and have formed friendships, both casual and long-standing.

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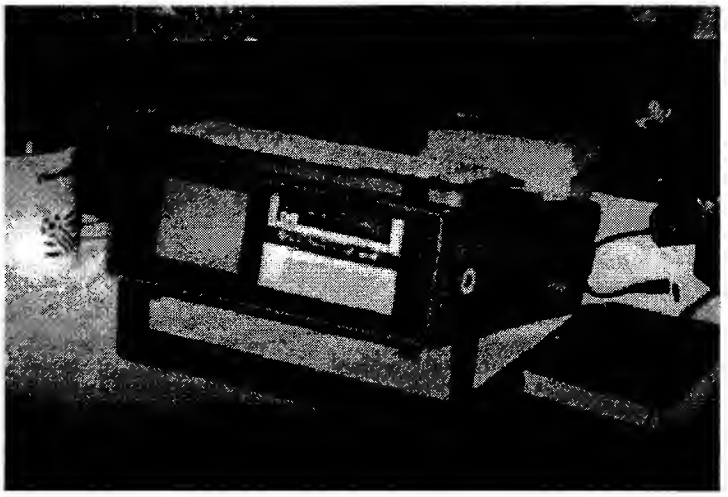
However, as diverse as the CBM 8-bit world is, it is literally spread apart here in the continental U.S. It is quite a rare occurrence that 1 would actually meet an actual CBM 8-bit diehard in person, and I've even met a few in Miami. I've heard of European c64 'parties' and demo competitions in which hundreds would attend and I would remember being somewhat jealous and wished the same would happen here in the continental US.



Mark Seelye

A picture of a rare SX-64. This one is upgraded with a CMD HD FD-2000 and works %100 with a SCPU!

Well, 1 need not be green with envy anymore, as Chicago EXPO went underway October 24th, 1998. It is indeed fortunate that I was able to attend, as 1 was over 800 miles away when 1 first began my sojourn to Chicago.

The main attraction of Chicago EXPO was the public debut of Maurice Randall's Wheels 128 replacement OS for the venerable GEOS 128 platform. But for me, it was so much more; for the first time in my CBM 8-bit life, I was in a well-attended gathering of dedicated CBM 8-bit users and programmers alike.

It was at the EXPO that I finally got to meet a lot of people in person that I've known only by email addresses or IRC nicknames. I got to meet, for example: (Pardon me for name-dropping.)

- Robin Harbron, a frequent contributor to Loadstar diskmag and Loadstar Letter and a democoder with PSW group.
- Darren Foulds, a musician, I think, with the PSW demo group.
- Stephen Judd, C=Hacking editor and creator of fine programs such as Jammon, a 65816 aware ML monitor, Polgonamy demo, Blahtune, etc. and maintainer of the Fridge, a resource for 6502/65816 ML programmers.
- Nate Dannenberg, author of MODPlay 64/128 and sporting an impressive C128T computer and displaying the dazzling QuickCAM interface.
- Jason Compton, Amiga Report editor and member of the FTA demo group.
- Mark Seelye, demo programmer for the FTA group.
- Maurice Randall, chief guardian and programmer for the GEOS platform.
- Robert Bernardo, President of Fresno Commodore Users Group.
- And much more active users such as Tim Lewis, Mike Gurosh, etc...

It was truly great meeting all of those people, but I finally got a chance to meet a living legend in person, none other than Jim Butterfield. He was kind enough to autograph my ripped-up and binded copy of his best selling ML book and chat for a while.

So far, you may have gotten the impression that the EXPO was just a nice gathering of people talking to each other about their CBM 8-bit computers and squinting at nametags. Well, as it turns out, there was plenty of activity going on. Since I arrived at around 1 p.m., I missed the MIDI presentation and K. Dale Sidebottom's GEOS/PostScript II laser printing clinic. From what I've heard, both were quite good and Dale managed to use a digital camera, capture a picture, print it out as a JPG onto his PostScript II laser printer, all entirely on his c128!

Fortunately, I did catch Maurice Randall's public debut of Wheels 128, a next generation OS for the GEOS 128 platform. Immediately, there was one obvious improvement; the GEOS 128 platform can now shine in full RGBI 80-column color. (It should be noted that legacy applications such as geoWrite, geoCalc would not take advantage of

A Rare Word From the Editor

By Jeff Jones. It's been 63 straight months without a single month missed. Other newsletter editors, who have themselves burned out, have warned me from month one that I would burn out. Well — I guess I have, but I get a lot of help from Robin Harbron, Todd Elliott and John Elliott. No, the latter two aren't brothers. A lot of people ask me whatever happened to Scott Eggleston. I shouldn't keep you in the dark anymore about that. Scott is busy finishing his education (like I should be doing) and the Loadstar Letter got squeezed out of his permanent schedule. It is nice to receive a surprise article from him every now and then.

The Internet plays a big role in getting this newsletter together. While feedback seems to have dropped lately, almost all articles arrive via Email or the world wide web. The pictures spread throughout this issue are but a sampling from Driven's web page. They're fairly large GIFs, located on a fairly cantankerous server at: http://nlaredo.globalpc.net/~coolhnd/driven/expo.htm I've found that I can't view the entire web site at once. I have to come back a half hour later then the other pages are responding.

Robin, Todd and I exchange many bytes of data per month. I can tell that Todd recently purchased a new Windows PC. It hasn't slowed him one bit from supporting the C-64. I've been supplementing my income with my PC over the past two years while my role at LOADSTAR has changed to a more technical one. With the recent .D64 project, I'm making about 40 .D64 images per day and then copying them to MS-DOS disks. This is mind-numbing work. Revamping Loadstar's website at http://www.loadstar.com is my kind of work though. Give it a look. It has tons more info now, and will continue to grow.

On the musical front, I want everyone in America to know that LOADSTAR is the place to get Chris Abbott's C-64 Back In Time CD. This is a collector's item that any demo– or game-lover will. It is indeed a labor of love. Its advertisement is in the bottom right corner of this page. Get it.

If you don't get that CD, get mine! It's not a C-64 CD, it's more of an uplifting contemporary Christian jazz-fusion CD. It'll get you bouncing, mellow you out, and even put you to sleep, depending on the tracks you select. It has me on keyboards, horn, and background vocals, with my wife, Rhonda performing all lead vocals. All music is composed and performed by me in my itty bitty digital studio. A DDD recording, you won't find a bit of hiss anywhere — particularly since I digitally identified and actively removed background noise. It's over an hour of music with two dreamy instrumentals and eleven vocals. This is an audiophile's CD. Subwoofers not needed, but if you have them, your walls will shake. Send $12.95 to

Jeff's CD
c/o LOADSTAR
606 Common Street
Shreveport LA 71101
Shipping is included

Photo By Jeff Jones

My wife, Rhonda — er, a *few* years ago. Wouldja believe I had no idea how beautiful her voice was back then?

Fender's psychedelic — yet shockingly black and white cover art.

We can't forget Fender's approaching Doggerel Days CD set. In Fender's years in a bar band, he's written more songs than I have scrapped. His music will span three CDs. He wants you to hear it all. More details on Loadstar #174.

(Continued from page 1)

color, as they were not originally designed with color in mind. Newer applications can take advantage of color, though.) From what I've seen, Wheels 128 looks virtually identical to its 64 counterpart.

Maurice put it through the motions, such as opening drive windows, running geoWrite 128, and explaining certain features. Maurice announced that due to a glitch in the SuperCPU 128 + RAMLink combo, the RAMLink could not be used. (Note: A week or so later, Maurice posted a message in the Delphi GEOS forum that he solved the glitch and made a software patch for it. Wheels 128 can now be used on the RAMLink in conjunction with a SuperCPU 128.) I asked Maurice to slow it down to 2MHz mode, and Wheels 128 still went about its task without any noticeable sluggishness. One attendee commented, 'I can live with that.' At either 2MHz or 20MHz, Wheels 128 looks like a winner. Maurice later stated publicly in the Delphi GEOS forum and via email, that his work on Wheels 128 revealed some bugs and quirks that he had to iron out and devise patches. It is through that work which made Wheels 64 even better. By the time you read this,

Nate checking out a midi setup with a c128 with 6 sid voices.

Jim Butterfield explaining the history of Commodore and how he relates to it (His Shirt says, "Yes Wally, there really is a Jim Butterfield.")

Wheels 128 should be ready for shipping and wide public use.

Next, Stephen Judd made a presentation about his programs and projects. First of all, he displayed Jammon, a 65816 aware ML monitor, and showed how to display, disassemble and manipulate memory. Next, he demoed off Tunesmith, a new music editor that he had been working on but not released. He explained Tunesmith's ease of use and belted off a tune or two. Last, he showed off his 3D demos and they were quite impressive at 1MHz. At 20Mhz, the demos simply screamed. He finally extolled the virtues of checking into the Fridge for ML programming tips, canned subroutines, etc. He and other people made cool promotional posters about his projects and CBM 8-bit activities for display at the EXPO.

Last, Nate Danneberg showcased his c128 tower computer, much to the delight of the attendees who probably were salivating at the prospect of possibly towerizing their CBM 8-bit computers. The C128T is pretty impressive and imposing piece of work. He showed off his time-tested MODPlay software and thankfully, with a couple of amplified speakers, demonstrated its dual SID's capabilities at music generation.

But the most impressive piece of hardware and software work must simply be that of the homebrew QuickCAM interface. For the first time, I finally saw real-time, streaming, full-motion video gracing the monitor, all on the 64 mode of his C128T computer. You simply have to see it to believe it. At higher resolutions, the video feed looked nice but was choppy. At this resolution, you can take pictures, share it with your friends and family. There was the medium resolution that traded clarity for some extra speed. In that resolution, the video feed was nice, and the frame rate was better. At the low-resolution setting, the picture looked pixelized, but from a distance, it looked great. But the frame rate was quite stunning and very smooth.

As for me personally, I showed off a couple of my projects to a few of the participants at the EXPO. I displayed a couple of impressive IFLI pictures using SuperBoot and demoed the Phantasm & Fantasy project. As for GEOS 128, I demoed a couple of programs that I was working on, but they shall remain nameless at the moment. Lastly, I showed off my rare c65, serial number #000008, (There were three of them at the EXPO!) and an even more rarer 1541-II prototype.

As with all good things, it must all end. ☹ The Chicago EXPO was done at around 4:30 p.m. and I departed on my way westward. I will never forget and treasure the memories that I have of the EXPO and if there is an another one within driving distance, I will certainly seriously consider going. Also, I would love to meet more people still programming and using their CBM 8-bit computers. So, when there is an another EXPO of some sort, you owe it to yourself to attend. You might even bump into me. ☺

Finally, there is one lasting impression from the EXPO that I would like to share with you all readers; The turnout was pretty good, exceeding at least a hundred, proving that the c64 is far from dead. But what was more promising was that of the work and projects offered by talented programmers and active users at the EXPO. Thanks to K. Dale Sidebottom and Maurice Randall, there will be significant PostScript laser printing advances under the GEOS platform. Thanks to the continued stewardship of Maurice Randall that we are able to fully enjoy the GEOS 128 platform with the release of Wheels 128. Thanks to Nate Danneberg, we will soon be able to show off video feeds on our c64s, showing that the antiquated technology is still good in the high-tech 1990's. Thanks also to Stephen Judd, for his continuing work on the ML programming front and as well as on Tunesmith.

It all points to an unmistakable conclusion; In 1998, 16 years after the inauspicious introduction of the c64, the platform is far from dead and shows vital signs of very much renewed life and vigor. When the c64 was introduced in 1982, there was much fanfare and a blizzard of activity for the first few years. Now, that it is a mature market, the activity level has fallen off dramatically to just a few dedicated c64 people keeping it alive with truly innovative software and hardware. It is from this cadre of programmers and active users that propels the c64 into the next millennium. It has never been a better time to be a c64/128 owner and stay along—the ride into 1999, 2000 and beyond promises to be just as exciting.


Mark See'ye

Darren(Shroom/PSW) and Robin(Macbeth/PSW) pose for a picture. (Actually, they always look like this.)

The Chicago Commodore Expo Through The Eyes Of Robin Harbron

By Robin Harbron. Shortly after Wheels 64 was released, Maurice Randall was already announcing that Wheels 128 would (very likely) be released at the October Commodore Expo in Chicago. I never dreamed I'd be able to attend in person – but that's exactly what happened. It's pretty cool how things worked out, so I hope you don't mind me giving some details:

My cars couldn't possibly handle the drive from Thunder Bay, Ontario, Canada to Chicago, Illinois – it's over 800 miles in each direction. My cars are both from the 70's, and it shows. Renting a car was going to cost me $300 CDN, but my dad volunteered his much more capable car as a birthday present to me. I was also pretty short on vacation time, but my manager allowed me to work some overtime beforehand so I could get from Thursday afternoon until Sunday night off. Darren Foulds AKA Shroom/PSW (he drew the frogs for my Frogs & Flies game on Loadstar #161) agreed to come along for the ride, and that took care of three concerns: some company during half of the long drive, a capable navigator (it's pretty hard to drive through huge cities the first time on your own, trying to read maps and drive 80 mph at the same time) and a free place to sleep Thursday night, when I picked him up at his school in Minneapolis, Minnesota. Along the way we even managed to visit my sister at school in Waukesha, Wisconsin.

Arriving in Chicago early in the evening on Friday, October 23rd we drove to the home of Steven Judd, meeting both Steve and Nate Dannenberg (see interviews in Loadstar Letters #57 and #58 respectively) for the first time. I had become a good friend with both of these guys over the last two years or so, sometimes talking on a daily basis with them over the Internet. Meeting them in person was fantastic, and we all got along just as well as we do virtually.

Nate had flown up from Kansas, and brought along his amazingly robust C128T – a Commodore 128, FD-2000, SuperCPU, 14 MB RAMLink, 1571, SwiftLink, 33.6 modem, and CMD hard drive all crammed into one PC tower case, with the various drives being accessed from the front, and all the ports being assessable from the back. I was surprised the unit hadn't become damaged in transit, but he hauled it around like it could withstand any sort of handling. And it did.

Just as interesting as Nate's C128T was his latest creation – an interface and appropriate software to allow one to hook a QuickCAM up to the C64 and 128 – watching the full screen video running on the computer at a decent frame rate was amazing.

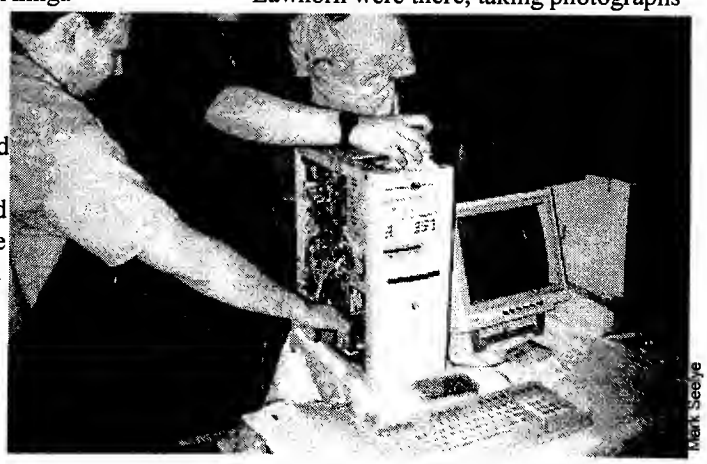
Jason Compton, a well known writer for both the C64 and Amiga publications, lives only a few blocks away from Steve, so he and his fiancée Katie dropped by, and we had a great time talking about new and old happenings on the 64, and showing each other various creations. It's unfortunate that the weekend was so rushed – having so many knowledgeable people in one place surely could have led to some great programs being written. So many of us are nearly alone in our hobby, having only Loadstar or the Internet to help keep us in touch. Imagine having so many excited people able to get together in person regularly!

Saturday morning came, and after a somewhat disheveling drive, we arrived at the Holiday Inn in Lansing, at the south end of Chicago. We signed in at the door to the conference room, paid our $5 admission fee, put our name tags on, and were confronted with at least 50 or 60 attendees (or if you don't mind the terminology, Commodore Freaks! That's what we called ourselves anyway). I heard that over 100 people had attended during the day.

I walked around the room, checking out the probably two dozen Commodores that had been set up. Randy Harris' SX-64 caught my eye, having an internal CMD hard drive and FD-2000, and a SuperCPU hanging out the top – looked pretty neat with Wheels 64 running on it. Ric Maes had his C128 hooked up to a MIDI keyboard, and he uses this system for composing music.

We arrived a bit late, so we ended up getting a table sort of in the middle of the room. Once we managed to get power run to our table, we had a pretty impressive looking setup – Nate's C128T, a C128 that was being programmed with a new video driver for the QuickCAM, a working C65 brought by Jason Compton (in fact, 3 C65s were brought, including Todd Elliott's) that was displaying a slide show of amazing Amiga quality graphics and a PAL 64 running some of the latest and greatest demos from Europe.

Dale Sidebottom and Roger Lawhorn were there, taking photographs


Mark See'ye

People check out Nate's 128 Tower.. You'll have to check his site for descriptions on all the stuff he's jammed into there.

Mark Seelye

Shroom won a Plus 4!

of people with a digital camera, transferring the pictures onto their impressive Commodore setup, and then printing the color pictures in amazing quality with a program written by Maurice Randall. Our computers can't display the popular .jpg graphics format yet, but with the help of the right printer, they can print them!

Maurice Randall was there, with his killer 128D setup – his stack of drives was about 2 feet high! He had a nearly complete Wheels 128 there, as promised, and was able to give a great demo about it's new features. It was fantastic to see the now-familiar Wheels environment on the 80-column screen. It seems to run even faster than the 64 version, due to the new optimization built into the SuperCPU 128.

This is a funny story – I knew Jim Butterfield was going to be at the Expo, and it wasn't long before I found him. While many people know his name, I actually feel like I grew up with him as a teacher. Jim is from Ontario, Canada, just like me – and he had a very long running television show called Bits and Bytes on TVOntario. Only a dozen or so episodes were made, but TVO repeatedly showed the series from the mid-80's until the early 90's, when it was apparently deemed too irrelevant to show anymore. I must have seen every episode twenty times. He did look a bit older (14 years does that to people) but his voice was instantly recognizable. A wave of nostalgia hit me, and I HAD to shake his hand and thank him for all the wonderful things he had done and taught me over the years. But...

I couldn't, because some tall, balding, 50-something guy had cornered Jim. For a while, I was patient, and stood around, thinking they couldn't talk much longer. It was fairly loud in the room, so I couldn't really overhear them – I just waited. And waited – eventually, I gave up, pretty ticked off at the fellow for tying up J.B. for so long.

My geniality returned, and I started introducing myself to various people at the conference. I had written "Loadstar Letter" on my name tag, and one particularly friendly attendee read my name tag and remarked how great it was "that you and your boss could come up to the Expo". "My boss? Fender Tucker is here? Where?" I exclaimed excitedly, looking around the room. The gentleman pointed across the conference room, right back at the tall fellow who had been tying up Jim Butterfield for so long!

As it ended up, I talked to Fender first – I both introduced myself and apologetically told him my little story – it certainly was a strange way to meet! Later, I got to shake Jim's hand and tell him I had driven all the way from Ontario too – he told me that he had seen my post on comp.sys.cbm where I said I'd be doing that. I was thrilled that he had remembered.

During the afternoon, Jim gave a short talk involving the history of Commodore – it was a rather enjoyable talk, right from the time of the KIM-1 to the PET through to the C64.

I got a chance to talk with Maurice Randall – what a great guy. He's obviously very thoughtful in everything he does – both in the way he speaks and in the way he programs. We had corresponded quite a bit via email a number of months ago, when I interviewed him for Loadstar Letter #54. Everything he did was underlined by a subtle excitement that was contagious – this must be what keeps him going during those long debugging sessions. He showed me the program he uses to personalize and copy-protect every copy of Wheels that goes out.

I have learned that there are different types of pride in the world – one is a destructive sort that does no good, while another is the kind that comes from doing the best you can with the skills you have. This second type of pride doesn't brag or boast – I figure it's a good thing, and it's what Maurice had as he showed how not even Maverick (probably the best 1541 disk copier ever) with the 8k Ramboard expansion could copy this disk. It may seem strange getting philosophical about 15 minutes of watching someone fiddle with a 15 year old computer, but it was such a great experience - sharing a bit of time with someone who has (or likely exceeds) my enthusiasm for my favorite hobby - I'll remember it for a long time.

Todd Elliot managed to stop by the Expo, and was glad to show us some of his projects. The first one I saw was his adventure game creator program. It's not yet complete, but what was done was very impressive. It seems like it will produce games very similar in play and look to the Bard's Tale series – you draw the maps by actually walking around the map, and creating the walls and doors, etc. right in 3D! He also included a hires graphic editor, to make pictures of the various monsters and treasures you will encounter. He also showed the beginnings of a user interface for a top-secret GEOS 128 project, which didn't really do much yet, but did look cool. And, he had a neat IFLI picture of the Wheels logo that he impressed Maurice with – we discussed for a while how that could possibly be incorporated into Wheels.

Mark Seelye (AKA Burning Horizon/FTA) demonstrated his Template Magic program, which is a remarkably powerful character editor of sorts, freely available at http://www.driven.c64.org/util.htm

The program lets you design multi-sized charsets, tiles, and anything else you can dream up. A very entertaining demo program is included, as a tutorial.

Robert Bernardo was there from the Fresno, California user group. Darren and I talked with him for a bit, and checked out the latest issue he had of Go64! – a German C64 magazine, written in German. Check out http://www.cunet.de/go64/go64.html for more information – it looks quite professional, but I could only understand the pictures.

Steven Judd demonstrated some of

his programs, all of which are freely distributable. First up was Jammon (short for Jamaica Mon) which is a machine code monitor for the SuperCPU based on Jim Butterfield's Supermon. Version 2 has recently been released, and you may be seeing it on a Loadstar disk soon, in case you aren't able to download it from the Internet. He also demonstrated Tunesmith, a very powerful music editing system that even contains its own language and compiler! BLARG was shown, which is a BASIC graphics extension, allowing you to easily and very quickly draw lines, circles, etc. in hires in your own programs. 3dLib, which provides a programmer with a ready-to-use library of 3d graphics routines, was demonstrated. Steve showed his Cool World demo, which shows the amazing speed of these 3d routines. Steve has taken over as editor of C=Hacking magazine, and he had posters (made by himself and Darren Foulds) up showing off the magazine.

All of Steve's programs are available from his web site, http://stratus.esam.nwu.edu/~judd/fridge/ - and I will be working on reviewing and making use of his programs in future Loadstar Letter articles.

Eventually, the event ended, although our group was pretty much the last to leave, as Mark Seelye, Nate and Steve Judd were hard at work debugging a new display routine for Nate's QuickCAM.

Back at Steve's place, all of us "demo-sceners" got together, and listened to some of the old-timers tell humorous stories of what they did back in their younger and more care-free days with the C64.

Darren and I hit the road again early Sunday morning and I made it back to Thunder Bay 14 hours later. It was quite the adventure – the drive, the people, the cities, the computers – and I hope to do it all again next year. Perhaps I'll meet some of you!

Many thanks to Randy Harris and the rest of SWRAP (South West Regional Association of Programmers User Group, Inc.) for making this event happen. Check out the SWRAP home page at http://hometown.aol.com/RGHarris/swrap.html and if you're able to view .GIF files, check out more of Mark Seelye's photographs of the event at http://www.driven.c64.org/expo.htm

Moving Video on the Commodore

By John Elliott. Nate Dannenberg has developed an interface for the Connectix QuickCAM camera so that it can be connected to a c64. The video from the camera is sampled to the Commodore monitor screen. At the moment, a machine language monitor like Jammon 2.0 can be used to save the raw image data. Mark Seeyle converted an image dump of the QuickCAM image of Nate to a GIF. It can be viewed on Nate's web site.

QuickScan Generation One connects to the port that would normally take a Commodore modem. Unlike my Computer Eyes interface which captures still images from a composite video analogue image, this arrangement uses an inexpensive camera that is designed for use in computer "see-you-see-me" types of home video conferencing. This camera operates entirely in the digital domain, requiring no conversions in order to be received by the computer. With the CMD Super CPU, a frame rate of 20 frames per second can be achieved. Over the air television in North America is about 29.9 frames per second. A normal c64 might get closer to 2 frames per second.

The amount of screen covered also affects frame rate. A 1 MHz c64 will achieve 10 frames per second if the image is 40X25 and has a 16 shade gray scale. An 80X50 4-gray scale screen can give 5 frames per second and a 160X100 image requires 1/2 frame per second (one frame would take two seconds). With the Super CPU the rates respectively are 30, 10, and 6.

The maximum resolution he expects to achieve is 320X200 in 16 grays.

At the moment he is simply streaming the data to the composite screen. Storage of a 160X100 image would take about 4k to store as a bitmap. 5 frames per second for twenty seconds would be about 400k. Nate estimates that a 1581 disk could theoretically store about 39 seconds of video at 160X100 in 4 grays, if captured at 5 frames per second. Image data would have to be stored in ram before saving to disk. A 1581 would not likely be able to accept a 20 kb per second stream.

A version of the scanning routines is being developed for GoDot. A 320X200 scan in 16 grays could be for example saved as an IFLI, when using Godot's IFLI saver module.

QuickScan Generation Two. Since I received this information, Nate has developed a preliminary circuit plan for QuickScan Generation Two. It uses the cartridge port, instead of the user port. There will be circuitry in this interface that will handle the camera's protocol at the hardware level. This should allow faster camera data acquisition. There will be a color version of the program and interface as well. The interface and program will not need modifications for this, except for color specific camera settings. Rendering the image, though, will be very slow. Six times as much data is being handled with a 24 bit image. A ram expansion unit will be required.

Nate estimates that the interface and program should cost about $15. At some point he will place schematics and software on the Net for downloading as well. I think the QuickCAM retails for a bit less than $100 in its mono version.

What could we do with a QuickCAM and QuickScan? Our Commodore created web pages could feature video files created on a c64. Video files of considerable length could be viewed on our Commodores, assuming that saving and loading of these streams becomes possible. Available video digitizers for Commodores are expensive. $115 for a QuickCAM and QuickScan would make possible capture and storage of a number of static as well as moving images.

The creator of the 4Scan Commodore scanner is also an astronomer. He has used his camcorder with his telescope to observe long term slow changes in the sky. He might now be able to digitize his observations on his c64.

Nate exclusively uses his c64 and 128 when he works digitally. With this his most recent invention, we have even fewer reasons to need access to "more powerful" computers.

Basic Image Programming on Four Commodore Computers

By John Elliott. It is possible with all four post Pet Commodore platforms to use the same basic commands to create graphics. The graphics commands of Basic 3.5 on the Plus4 are nearly identical to those of Basic 7 on the 128. The Super Expanders for the vic 20 and c64 closely match the commands of Basic 3.5. This Commodore consistency means that if we learn to draw and color objects on one computer, we can use the same procedures on any of the others.

There are a few caveats. The Super Expander cartridges for the vic 20 and c64 are not frequently advertised for sale on the Internet or found in flea markets. There is no easy way of printing the images that are created with these commands. A program created with this language on one platform will not automatically load and run on another Commodore computer. Slight editing will however enable programs developed for one of the four Commodore computers to produce similar results on any of the other three.

I will not deal with the similar sound and music commands that are also shared among these machines. Sprites are only available on the c64 and 128. The Super Expander c64 commands and the 128 commands are identical for sprites.

Since the commands for the c64 and vic 20 require a special cartridge, a separate manual is provided for each. For the vic 20 it is a folded sheet of paper. The c64 version is a 60 page book with a totally erroneous index. The plus4 and 128 have the graphics language built in. All explanations are found in the user's guide. The visual basic commands are sometimes identical across computers, with occasional subtle differences.

Commands – Graphic: Vic-20

Which kind of graphic screen is used is determined by the command "graphic" a comma and a number: 0-text, 1-multi-color, 2-high res, 3-mixed multi color and high res, and 4 return to text.

The values of locations are based on a 1024 X 1024 point screen. A location whose co-ordinates were 512,512 would be at screen center. The screen is then re-adjusted for the appropriate format. Multi-color is 80 points across by 160 down. High resolution is 160 across and 160 down. In multi-color each dot is 4X16 pixels. In high res, a dot is 8X8.

Commodore 64

The numbers that follow the graphic command are 0-text, 1-multi-color, 2-high resolution, 3-split high res and text. A one after the region number clears the screen; a zero leaves it as is. "graphic 1,1" clears the screen and sets multi-color mode.

While the vic 20 works exclusively in character mode, the c64, plus4 and 128 perform graphics operations in bit mapped mode.

The c64 has nearly double the number of columns of the vic 20 in most modes. Text-25 rows by 40 columns, high res 320 horizontal by 200 vertical, multi-color 160 horizontal by 200 vertical, split screen: top part is 320 X 160 dot high screen; the bottom window is 5 lines of text with an active cursor. High res regions are 8X8 dots while multi-color are 16 horizontal by 8 vertical.

The Plus4

The region numbers that follow the graphic command are 0-text, 1-high res, 2-high res + text, 3- multi-color, 4-multi-color + text. Screen dimensions for each mode are the same as for the c64. 0 and 1 are again used after the region command for screen clearing. Multi-color areas are twice as wide as are hi res.

128

There are six modes: 0-40 column standard text, 1-standard hi res bit map, 2-standard split screen, 3- multi-color bit map, 4-multi-color split screen, 5-80 column text. The clear screen function is available. An "s" parameter gives the starting line number of split screen in modes 3 & 4. The default is 19. "graphic 2,1,20" creates a hi res split screen, clears the screen, and starts the text portion at line 20.

The c64 and plus4 have fixed sizes for their split screens.

Screen Clear

There is a "scnclr" command for all 4 computers. For the vic and c64, no parameters are needed. The screen is cleared in any mode. With the plus4 in split mode both the text and bit mapped areas are cleared. On the 128, the mode can be selected so that for example "scnclr4" clears the vic split screen multi-color mode.

Color

In text mode, after the "color" command, any character can be any of the four available colors listed after the "color" command.

Vic 20

Color commands take the format "color <screen>,<border>,<character>, <auxiliary>". The screen and auxiliary colors can be any of the 16 available colors. Border selects from 0 to 7, character from 0 to 7 in high res, and 8 to 15 in multi-color. "color 2,7,5,6" would provide red screen, yellow border, green characters, and blue auxiliary colors. Any of these colors can be used for any point. "Point 3,x,y" would color the screen location in this case the color 5 (green), while "point 2,x,y" would color the dot color 7(yellow).

If the value of one area (eg border color in multi-color) is changed, then all points in that color also change. In hi res, all dots must be in character color.

The "region" command only affects the character color. "region7" gives yellow for the foreground.

Commodore 64

In high res, each region can be either the fore or background color. In multi-color there can be any of four colors in each zone: background, foreground, multi 1, multi 2. A "graphic1,1" statement followed by a "color3,9,2,1" would mean that "point2,x,y" would color a location on the screen color 9 (brown), while "point 4,x,y" would color a spot color 1 (white).

Plus4

Color commands work the same way they do for the c64. However, color area 3 (the second of the multi-color areas), will automatically change color wherever it is on the screen, if its value is changed at any other location.

The plus4 is unique among these 4 computers in that it can vary the luminance (lightness or darkness), of each color on a scale of 0 to 7. "color 0,7,7" indicates a background color of blue and that the luminance is brightest on a scale of 0 to 7. The effect of luminance variability is to give an available palate of over 100 colors. For example in multi-color mode, all four colors could be different shades of red.

On the 128 color commands are the same as for the c64.

For the plus4 and 128, the color labels for each region must be on separate lines

Colors across platforms:

The vic and c64 number their colors from zero; the plus4 and 128 begin with one. The first nine available colors are the same for all four computers in order: black, white, red, cyan, purple, green, blue, yellow, orange. The 128 uses different shades of the same first 8 colors in 80 column mode, and duplicates the c64 in 40 columns. The remaining seven colors for each computer are lighter or darker versions of some of the previous nine.

Draw

All four computers use the command "draw color, x1,y1 to x2ly2", or "draw color to x1,y1". In the second case, the cursor position is the beginning of the line. The "to" part of the command allows chaining of co-ordinate locations so that any open or closed shape can be drawn.

Vic 20

The co-ordinates are plotted on a 0-1023 screen in both directions and then scaled down to appropriate hi res multi-color or mixed mode screens.

Commodore 64

Co-ordinates can be absolute, as with the vic 20, or relative. Relative draw commands are based on distance and angle of movement from the initial position. The format is "draw source color, distance; angle". The distance and angle are separated by a semicolon rather than a colon. Chaining of relative commands is possible. Absolute and relative commands can be combined "draw 10,10 to 20,+10" would draw a line from 10,10 to the 20th column and 10 rows down (ie to 20,20).

Plus4 and 128

While the plus4 like the vic 20 uses absolute co-ordinates only, the 128 like the c64, also permits relative directions, and mixture of the two forms.
^P Locate and Point

For the c64, plus4 and 128, the locate command moves the invisible cursor to the desired screen co-ordinates. All platforms will use the absolute x1,y1 co-ordinates. The c64 and 128 will also use relative commands and can mix them with absolute ones.

The vic 20 uses instead the "point" command in the form "point color, x1, y1". The point will be visible, unless screen color is used. The other three computers use "draw color, x1,y1" for a result similar to "point".CircleVic 20

The circle command takes the form "circle c,x,y,rx,ry[,as,ae]", in which c is the color, x and y the location of circle center, rx and ry the horizontal and vertical radius, and as and ae the start and end of an arc of a circle(optional).
C64, Plus4, 128

These computers use the same commands as the vic 20 for color, radii, and beginning and end of the arc. In addition they have an optional angle and inclination command. Angle is useful if the shape drawn is not a circle and is instead an ellipse or even quadrilateral. Angle refers to the angle of rotation clockwise from vertical.

The circle is actually constructed of straight lines. Inclination states the number of degrees about the circle before another straight line is drawn. The larger the number, the coarser the curve. Quadrilaterals and ellipses can both be drawn this way.

The c64 and 128 can locate the circle center with absolute co-ordinates, relative ones, or a mixture.

Paint: Vic 20

The command "paint c,x,y" states that the prescribed color will be placed in the area that contains the listed co-ordinates. If the graphics mode is mixed, and the area is surrounded by multi-color images, that area can only be painted in multi-color mode. If surrounded by hi res shapes, the area in mixed mode can be painted in either hi res or multi-color mode.

C64, Plus4, 128

To the vic 20 command string is added the "halt" command. If a zero is used for halt, the color will fill to an outline of the same color as used in the paint command. If a one is entered, the paint command will fill to any foreground or multi-color outline.

The c64 and 128 can locate the paint start co-ordinate with absolute or relative numbers.

Char: Vic 20

The char" (character), command prints text in graphics mode. It can only be displayed in hi res or mixed mode. The command is 'char ro, col, "text"'. The row and column are the co-ordinates of beginning of the text or numerical string on a 20 X 24 screen.

Commodore 64 and Plus4

Char works in all bitmapped and text modes. The screen co-ordinates are based on a 24 X 40 grid Added to the vic 20 commands is an optional "reverse" command. In text mode, reverse is ignored. In hi rise or split screen mode, if reverse is zero, no change takes place. A one places the string in reverse. In multi-color if the color selected is 1, 2 or 3, the reverse commands work as they do in hi res. If the source color is zero in multi-color (ie if the screen color is chosen for the text), then to avoid the text being invisible, the text will be printed in foreground color. If in multi-color the reverse is zero and the color selected is zero, then the text will have background of multi-color 1. If the reverse is one and the color selected is zero, multi-color 2 will be the background.

128

All of the c64/Plus4 rules apply to the 128. In addition, upper/lowercase controls (chr$(14) or (chr$(142), operate in bitmapped as well as text mode.

Since the 80 column screen is text only, the chr and print commands are useful for dressing up the appearance of that screen.Quote Mode for all computers

In text mode (graphic0), both print and char have quote mode characteristics. The text can be printed in different directions, in reverse, and in different colors. Upper and lower case can be selected. I found though that the case last chosen dictates the case for the screen. The plus4 is also able to flash the text. To achieve these effects, type the normal text control commands, such as control/1 to print a letter in black, within quotation marks. For example, print "cursor down key v cursor down key i cursor down key c" will print

V
 I
  C

Down the screen.

Box: C64, Plus4, 128

To automatically draw a box, use the command "box color,x1,y1,x2,y2,[angle, fill]". If the color is omitted, then foreground color is used. The co-ordinates can be absolute on all three computers, and relative or mixed relative and absolute on the c64 and 128. The angle is in clockwise degrees of rotation about the center. If fill is not zero, then the box fills with the same color as the box outline color.

All computers including the vic 20 can draw a box with the draw command or circle command.

Scale: C64, Plus4, 128

The scale command sets all graphics modes to 1024 X 1024. On a 40 column screen, multi-color is 160w by 200d, hires 320w by 200d, and split 320w by 160d. Scale 0 leaves each mode in its normal resolution. Scale 1 sets up the 1024 X 1024 screen.

On the 128 the default for scale is 1024 X1024. In multi-color the default on the 128 is 512 X 512. The size of objects can be adjusted from 0 to 32767 with the 128 scale command.

The vic 20 automatically takes co-ordinates on a 1024 X 1024 grid and then readjusts for the appropriate graphic mode.

Gshape, SshapeC64, Plus4, 128

"sshape,stringname,x1,y1,[x2,y2]" saves a portion of the graphics screen to a basic string. Since the maximum size of a basic string is 255 characters, the screen area is relatively small. The form could be sshape "ship", 0,0,50,50 or sshape"ship",-40,20,200,120. A scale of 1 or 0 may be used. Gshape places the area saved to memory in a different screen location. 'gshape"ship",20,20' puts a copy of for the ship image at 20,20 on the screen. The optional "method" statement at the end of the command can be 0-draw as is, 1-inverted, 2-or shape with screen, 3-and shape with screen, 4-xor shape with screen. 2-or all parts of both shapes are shown; 3-and only points where they coincide are shown; 4-xor only parts of shapes different are shown. Width

On the c64, in graphics mode 2 and 3 (hires and split screen), lines are drawn one pixel wide. Poke 49168,0 sets lines as one pixel wide. Poke 49168,1 sets the line as two dots wide. This will work even without a Super Expander cartridge installed.

On the 128, "width 1" sets single width for graphics commands, and "width 2" sets double width.

Windows: Plus4

A window can be created on the plus4 text screen. While whatever else had been previously placed on screen remains there, all new programming, listing and file loading goes to the window. Once the window is erased, everything covered by it becomes again available for normal work. While images or large programs such as a word processor cannot be loaded to the window, I found I could create, list, save and load simple basic programs within a window, and then return to the text screen beneath it.

To create the window, touch the escape key, then the letter "t" to mark the top left corner, followed by escape-b to select the bottom right corner. The window is erased by hitting "home" twice.

Not mentioned in the plus4 manual is the window is not just an immediate mode creation. It is possible to program a window, and to place several on the same text screen, although only one can be active at a time. Nolan Neathercutt provided the following commands as a model: poke 2023, (top left column): poke 2022,(top left row):poke 2024, (bottom rt column):poke 2021, (bottom rt row). Print $(147) clears the window, and print$(19) leaves it as is.

With the above information, I was able to create four windows, place text of different colors in each, and have an active cursor in the last programmed window.

128

The 128 in both 40 and 80 column modes uses a built in "window" command that works in both immediate and program mode. It is also possible to use the plus4 direct mode top left-bottom right method.

In program mode, window 10,10,20,20,1 places a window in the top left section of the screen. The "1" clears the window. A "0" would have left it unchanged.

The c64 with Super Expander has windows listed in the manual index. No relevant information is available though within the manual.

Relevance? If the reader has a vic 20 or c64 with no Super Expander, the detail here may seem irrelevant. I did discover though in going through my Programmer's Reference Guides for the Vic and the c64, that many of the effects created through basic 3.5 (the two expanders and plus4), and basic 7 (the 128), can be achieved with more labor through programming, especially using pokes. I am sure I have seen c64 programs in Compute Gazette and Run that used many of the same basic commands for programming of images. Loadstar's back issues must have several examples.

I am pleasantly surprised that Commodore at least from the vic 20 onwards maintained a continuity in its commands for programming of visuals.

I have seen in the Commodore newsgroup periodic requests for information about how to program with a Super Expander or a plus4. Often we receive used hardware with no manual. I hope what I have described will assist these people. I know until I obtained my plus4 with little software, I had ignored the possibilities of using Commodore basic commands to create visuals with my vic 20 and c64 Super Expanders and my 128. That they all use the same language made my learning process much easier.

I have not here touched on the range of sound and music commands shared across these four computers, or the fact that the c64 with Super Expander uses the same sprite commands as basic 7 on the 128.

Those who know other basic techniques such as recursion will be able to create impressive swirling patterns and shapes with the basic 3.5 and basic 7 commands. I am very happy with the range of shapes and colors I have achieved on each computer with some quite simple commands.

Relevant Postings From the CBM Newsgroup

Compiled by Robin Harbron.

Announcement! The Software Guild Presents...
17 Sep 1998

Hello fellow C=users,

I have been programming for the C64/128 since 1984 and have actively programmed for the open market since 1987. A year ago, I left programming altogether for personal reasons. However, it seems quite a waste to let valuable GEOS source codes just sit on the shelf with no possibility of future upgrades while the C64 community desperately needs software written. So, "The Software Guild" would like to proudly announce that we are making our source-codes available for purchase. This is an all or nothing deal. The source codes fill two 1581 disks and this is the only size disk they will be made available on at this time. I may consider a 1571 disk release later on.

The price is $30 for all source codes ready to assemble and link. You must have the geoProgrammer package from Berkeley Softworks. This is a great tool for learning to develop GEOS based applications as you can play around with working programs that utilize 90% of all operating system features. From ASCII manipulation to Printer drivers, it is all here. There are even new never before released applications.

TSG INC...Notice!
Date: 25 Sep 1998 00:55:55 -0500 From:
luckykds@iglou.com
(K DALE SIDEBOTTOM)
The Software Guild Inc.

NOTE: Someone has purchased a copy of my source codes. However, due to some confusion the check was made out to K. Dale Sidebottom as I posted using his account. I assumed (wrongfully) that the checks would be made out to The Software Guild. My apologies for any misunderstanding. Please makes checks payable to either Roger Lawhorn or The Software Guild. (Another footnote for all of the mag editors out there.)

Now that's one copy. Do I hear two? Surely there are still some GEOS enthusiasts out there wanting to learn GEOS coding better? I am all but certain that there are plenty of people dissatisfied with geoLabel (why on earth I don't know. Must be perfectionists). So, here is your chance to make that mod you have been needing. Finish up the laser routines I never got working. That's right. geoLabel laser never got finished. Dale did the postscript code, but I never got the geocable routines to work right. For those that missed it...here is the original post. :-)

The packages includes source codes for:

AsciiToWrite Convert ASCII files into geoWrite files. Latest source code converts large files into multiple geoWrite files. Never released till now.

GEOS>PM/PS: Convert PhotoScraps into PrintMaster or PrintShop graphics.

PrintKernel: A set of utilities to dump the GEOS operating system to your printer in assembly language form with full symbology. Runs from within the geoDebugger.

Dir Manager: Sorts all files on any drives directory (A, B. or C). Supports 1541,1571,and 1581 formats. Works with all devices including REU's or partitions if they are a standard C= format. Sorry no native mode support. geoSidPlayer V1.0: Simple SID music player for GEOS.

SuperBox 64/128/German: A great multifile box for GEOS 2.0 and lower. It is not needed if you have "Wheels 64" by Maurice Randall and would crash anyway. The German version was never finished due to constant problems getting the 128 version to assemble correctly, though the code is all but done.

geoDOS: Ever wanted to drop to basic and still be able to access files in your REU? You can with geoDOS! geoDOS only supports the loading of files. There is no disk filing system. I used this to load my BBS files into ram with a GEOS disk copy.

geoLabel 64 V1.4, 64 V1.5, and 128: Hailed as the world's greatest label makin' program (by yours truly and many magazine people, etc...). Version 1.4 for the 64 was the final bug-free release. Version 1.5 for the 64 was a freebie on some of the last disks mailed out. Version 1.5 can print labels three across. The 128 version utilizes the full 8" screen width.

RogersPrint: We mass converted PrintShop and PrintMaster graphics into PhotoAlbum format using a very nice GEOS utility, but we needed a neat way to print them out in catalog form. RogersPrint was the answer. It prints graphics from photo albums (PS/PM sized ones only) and numbers them or gives them a letter (A-Z). Twenty-Six to a page.

PhotoRenamer: Works with RogersPrint. Renames all photos in an album so that they are numbered or alphabetized.

CopyBuster: Uhh...not released to the public till now for good reason. If you want to know what it is. Buy the disk. You assume all responsibility for release of modified versions.

Star Driver: Printer driver source codes for use with Star NX-1000 printers. Source is currently set to make the Star XB2410 24 pin printer print a GEOS page in the correct height of 11".

geoDigitizer: Digitizes from a cassette player onto any disk drive (REU, if you want half decent sound). A fun toy.

Worth: A gospel tract in GEOS format! Win your friends to the Lord! Simple source code. Only half a page long.

FontViewer: View any of the first 13 fonts (via pull-down menu) on the screen in any point size. Simple demonstration of adding fonts to a menu.

geoPrint 2.0: This application prints banners, posters, wall sized posters, and greeting cards on any printer regardless of resolution! 60 or 80dpi (dots per inch) it makes no difference. There are even Epson compatible drivers included that support 72dpi mode for perfectly square pixels!

Now for the best part. Each order comes with a licensing agreement that will allow you to register any new programs you make for release...ROYALTY FREE!!! NO ADDITIONAL FEES!!! No royalties paid to us. Just a little respect for the authors. We don't want 50,000 copies of geoLabel floating around with the first 1000 doing the same thing.

I will accept pre-orders. Shipping will begin Oct 1, 1998.

I am accepting only pre-paid postal-money orders. Unless I know you, I'm not going to accept a check. The post-office is in every city so I don't see this as a problem. It also allows me to mail and cash my checks at the same time which saves me time and gets your package to you quicker. Please adhere to this to avoid any delays.

Email to:
luckykds@iglou.com
or write to:
The Software Guild
1723 Greentree Blvd. Apt #25
Clarksville, IN 47129
The disks are finalized and the first order is out the door. I have now included the complete 1581 release of all of our software including documentation, etc.. with the source code disk. The final size was two 1581 disks for everything. Though it just barely fit.
The final package included the source and files for:
FontViewer
AsciiToWrite
geoLabel 64 V1,4 & V1.5 & 128 V1.0
geoPrint V2.0
DirManager
SuperBox 64,64G,128
Worth
PrintKernel
geoSidPlayer

GEODOS
RogersPrint
PhotoRenamer
CopyBuster
quad density printer drivers for both 9 and 24 pin printers.
geoDigitizer

One last note:
To my amazement recently...I loaded up geoLabel PS for laser printers and found that I had dropped the project when the code was 99.99% done. I did a quick fix and the geoCable routines started working. My father-in-law is working on fixing the bugs in the postscript code he wrote for it and we should have a working laser version of geoLabel within the next two months. This laser version is a fully functioning version of geoLabel except that it does not contain standard printer driver support. Just direct postscript laser printing. Standard printer interface or geoCable, either will work.

NOTICE - Jean Major GEOS program now PD

Date: 30 Sep 1998 04:23:42 GMT
rbthomas@freenet.edmonton.ab.ca

I recently wrote to Jean Major to inquire about his many GEOS programs. Below are two replies he sent me.
1 ----
Date: Tue, 8 Sep 1998 11:32:54 -0400
Subject: GEOS

Hi Bruce,
I must say right away that I stopped working on the GEOS platform at least 4 years ago, I do not even own a Commodore anymore.... I have moved up to the networking business, with Novell, Microsoft and Intel Certifications... If you can find somebody out there that still uses my software you are free to get it from them... I sold a lot to Germany and Great Britain... I am sorry, I can not help you further... Regards...

<snip>

Yes, you were correct, all my software [is] released into the Public Domain. You are free to contact anyone that might still have a copy and ask them to send it to you as long as my name is forwarded along as the creator/publisher of the software.
I am a bit short on time lately, I have to complete my Intel Certification by the 15 Oct 98, seven prometric exams, three done four to go... It is unlikely that I will have time to spare in the next few months to browse the news groups... Thanks again for the interest in my work...
Regards...
Jean Major, CNE, MCP, A+
Network Specialist...

Sample Chapter and Errata/Addendum for The Internet for Commodore C64/128 Users

Tue, 29 Sep 1998 12:32:41 GMT
From: gaelyne@videocam.net.au (Gaelyne Gasson)

G'day,
I've updated the TIFCU (The Internet for Commodore C64/128 Users) Web site and added the Sample Chapter (Chapter 18: TCP/IP Connections), and the Errata/Addendum file listing the changes between the 2nd and 3rd editions of the book.

The URls are:
http://videocam.net.au/tifcu/chapter18.html

http://videocam.net.au/tifcu/errata.html

Via FTP:
ftp://videocam.net.au/cbm/info-txt/tifcu/chapter18.txt
ftp://videocam.net.au/cbm/info-txt/tifcu/errata.txt

Via Mail:
Send message to:
tifcu-info@videocam.net.au

In the message body type:
get chapter18
get errata

Novaterm 9.6 SuperCPU buffer driver

28 Sep 1998 02:09:39 GMT From: voyager@eskimo.com (Nick Rossi). I have just written a buffer driver for Novaterm 9.6 that uses SuperCPU memory. You can either uudecode the attached file, or download it via FTP from:

ftp://ftp.exitlight.com/Novaterm/v9.6/ram.SuperCPU

CMD Prices

Nate / DAC <natedac@southwind.net> wrote: Recently, I made some comments on Delphi regarding Creative Micro Designs' pricing structure, in particular about how their Hard Drives are priced. Some of my comments came off as insulting to some of the crew at CMD.

Sta@ludens.elte.hu (Joe Forster/STA) wrote: Hi Nate, why do I feel that the CMD guys feel most negative comments as personal insults? OK, perhaps, because they're a small company...

Doug Cotton: Frankly, Nate's comments were not particularly insulting, but some other comments from that thread were. Someone in management at CMD was incorrectly informed that those comments had come from Nate. I think this matter has been cleared up between Nate and person at CMD.

The comments we did find insulting were accusations that we were "gouging" Commodore users with our hard drive prices, that we incorporate "used mechanisms" in our hard drives, and a comment that we need to stop considering ourselves to be "GODS". Such slanderous accusations are indeed insulting.

With respect to "gouging", if you don't know what it costs to build a particular item, what the sales volume is, and how much it costs to keep the company in operation (and thus what a reasonable markup is for the service you are providing), then it follows that you can't possibly have a clue as to what is a reasonable sell price for the item. It seems odd that the same person who levied this accusation considered our

prices on RAMLink and the SuperCPU to be reasonable, since each of those actually has a higher percentage of markup overall than the HD's do.
With respect to us using "used mechanisms", the drives used in CMD HD Series hard drives are either NEW or NEW/UNUSED. If you're not familiar with the latter, this is a term used in the industry by liquidators for drives that were previously purchased, but were either never used or were installed into systems that were never sold. NEW/UNUSED drives are typically only used by us when NEW drives of a given capacity are no longer available. If the supply of NEW/UNUSED drives were to dry up for a given capacity, we would no longer offer that capacity, exactly as has occurred with the HD-20. We don't go out and get USED drives to sell in NEW systems. Other capacities have been dropped as well when it no longer made since from a price standpoint; why offer a 170 MB drive when a 500 MB mechanism costs only a few dollars more?

But anyway, my opinion is still the same: even if they can only sell a low number of parts, their prices are annoyingly high. I don't really understand why this is an insult. This is a fact. I guess, for the price of a one Gig CMD hard disk I could buy a slower PC or a half or something. So, isn't that hard disk too expensive then?

For the price of a one GIG CMD hard disk, I could buy several thousand sticks of gum. But what does that have to do with whether our hard drive for a Commodore 64/128 is too expensive or not? A bunch of sticks of gum won't do the same things a Commodore hard drive does, and neither will a slower PC (by PC, I assume you mean a Wintel/Wintel clone).

Joe: And isn't there a better, and mainly cheaper, way to connect an IDE or SCSI hard disk to your C64?

Doug: Define "better". Is there another currently available hard drive system for a Commodore 64/128 that offers better anything than the CMD drives? If there is, it's a very well kept secret.

Joe: Not that I'm really interested in hard disks and stuff but high prices always pissed me off all my life... (One of the reasons why I finally opened my X1541 shop)

CMD: Joe, I mean no insult to you here, but my guess is that you'd have to raise your prices on those cables a bit if it were your main source of income. At your current volume of sales on these, how much would you have to charge per cable to make a living at it? A few hundred dollars? Naturally, no-one would buy them at that price, and you know you'll sell more at a lower price. We know that people won't buy our drives if the prices are too high. Likewise, we know that with prices too low, we can't keep making them. Our prices have always had to walk a tight-rope between these limits. But at this point, the volume in the Commodore market is already too low for the current prices. There isn't any 'profit' in this, unless you consider paying employees and keeping the business from grinding to a halt as profit. We're simply trying to do our best to keep things available for those who want them and can afford them. Quite honestly, I can't see anything wrong with that.

Creative Micro Designs, Inc.
Visit our WWW Site at:
http://www.cmdweb.com/

Alright With The Binaries!

From Cameron Kaiser. This morning I received five copies of the same ~340K document in my moderator mailbox, all of them posted by someone from arrakis.es with no valid return address. Since I can't contact this person directly, here's a public notice (and this applies to anyone else who doesn't know):

If you haven't noticed already, comp.binaries.cbm is moderated, and every post made (unless your news server is obtuse) gets sent to me. Please be aware of this -- if you don't think your message is getting through, *ask* before you post. I do not have a bottomless pit for a mail spool. If you have questions about the approval process, my E-mail address is in the .sig and furthermore is easily demunged; and the FAQ is available from the usual places (try http://www.faqs.org/).

Since the original messages had no return address, I have deleted them. If the original poster would like to resend them with an address I can contact him or her at, please do so -- and just once, this time.

Thanks for reading :-) now back to your regularly scheduled inanity.

-- Cameron Kaiser * cdkaiser.cris@com * powered by eight bits * operating on faith -- supporting the Commodore 64/128: http://computerworkshops.home.ml.org/ -- head moderator comp.binaries.cbm * cbm special forces unit $ea31 (tincsf) personal page http://calvin.ptloma.edu/~spectre/ * "when in doubt, take a pawn"

Reader (and Contributor) Mail

Hi Jeff,

Just got finished reading #61 and found it very interesting.

I have been writing a small program in basic to help edit my video tapes that I have taken. With the program I load in data statements indicating where I want to cut out areas and the program cuts these sections by pausing the recorder. Works quite well. Enough of that. What I was going to say was that in the program every so often I wanted to clear the top line and leave the rest of the screen intact. I was going to have to do some searching to come up with a method when I read your article on variables and there was the answer: Example 1 on page 7. Entered it in my program and it works great. Now a small complaint. This one doesn't just happen with your publication but with all different publications. With the advent of the ability to condense the size of the print a lot of publishers are making the text too small to read. In point. The Verified Active Commodore BBS List. Looks great until you try to read some of the information. Even with a magnifying glass some of it is still almost unreadable. After all that I still enjoy getting and reading the letter. Keep up the good work.

Russell L. Redman
wf824@victoria.tc.ca

Jeff: You're right. On my screen those letters looked fine, but when I finally printed them, they were too small. I used a feature called "Copyfit text," which makes the font just the right point size to fit in any box. I simply shouldn't have used boxes or the copyfit feature in this case, not when the data was so variable. Keep on programming. It sounds crazy but it relieves headaches.

Dear Jeff,

Hey - was "Raster Interrupts - By Steve Emsley & Roy Riggs" an article made for LSL, or did you get it somewhere else? It was pretty good, but did seem to have some errors, like:

"If you're wondering how fast the raster line is, it's approximately 1.92 MILLION pixels per second with each raster line being drawn..."

I get *double* that - 320*200*60 = 3.84 million - or am I doing something wrong?

"The raster is the current scan line that the gun is shooting at. The value of the raster will vary from 0 - 262 on normal TVs, on a European TV it goes from 0 - 312."

I far prefer the term "NTSC" to normal ;) And, depending on your NTSC VIC revision the raster value will vary from 0-261 or 0-262. Instead of calling it a "European TV", call it PAL, or mention that Australia, New Zealand and some other non-European countries use the PAL system. And there are 312 raster lines total on a PAL VIC, numbering from 0-311.

LDA #$7F
STA $DC0D

This disables all interrupts. This might seem a bit repetitive, since we started with an SEI (which disables interrupts). The CIA# 1 has five interrupt sources, and we don't want those 'interrupting' us.

This code should actually be run *before* the SEI - otherwise an interrupt may be generated by the CIA between the time the SEI is called and the time the CIA interrupts are disabled, causing a spurious interrupt once CLI is called. In fact, the bit of code I always use, which seems very safe, is:

```
LDA #$7F
STA $DC0D
STA $DD0D
LDA $DC0D
LDA $DD0D
SEI
```

Which kills any future CIA interrupts and clears the registers. Note I didn't do the SEI until after the sources of interrupts were disabled.

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Jeff: What do you mean "...or am I doing something wrong?" Quit being modest! I emailed you the text to the Loadstar Letter #62 and within an hour you came back to me with this verbose correction. You know that you know this stuff like the back of your hand.

You yunguns are getting scary! I have to study up on interrupts every time I use them. I'm beginning to think you're one of them VolTones!

Robin: The raster interrupt article? I don't know - I must have been in some state of heightened awareness, after spending the weekend coding a demo and working on C=Hacking - after proof-reading/nitpicking a Steve Judd article, it's pretty easy to find errors in anything else :)

Perks Of Being A Man

- Phone conversations last 30 seconds
- You know useful stuff about tanks and airplanes
- A 5 day vacation requires only one suitcase
- Bathroom lines are 80% shorter
- You can open all your own jars
- Old friends don't give you crap if you've lost or gained weight
- When clicking through the channels you don't have to stop on every shot of someone crying
- You don't have to lug a bag of "necessary" items with you everywhere you go
- You can go to the bathroom alone
- Your last name stays put
- You can leave a hotel room bed unmade
- You can kill your own food
- The garage is all yours
- You get extra credit for the slightest act of thoughtfulness
- You see the humor in "Terms of Endearment"
- You never have to clean the toilet
- You can be showered and ready in 10 minutes
- Wedding plans take care of themselves
- If someone forgets to invite you to something, they can still be your friend
- Your underwear costs $7.50 for a pack of 3
- None of your co-workers have the power to make you cry
- You don't have to shave below your neck
- You don't have to curl up next to some big, hairy guy every night
- If you're 34 and single, no one notices
- Chocolate is just another snack
- You can quietly enjoy a car ride from the passenger seat
- Flowers fix everything (or duct tape)
- Three pair of shoes are more than enough
- You can say anything and not worry about what people think
- You can whip your shirt off on a hot day
- Car mechanics tell you the truth
- You don't give a damn if someone doesn't notice your new haircut
- You can watch a game in silence for hours without your buddy thinking, "He must be mad at me"
- One mood, all the time
- You can admire Clint Eastwood without having to starve yourself to look like him
- Gray hair and wrinkles add character
- Wedding dress $2000, Tux rental $100 bucks
- You don't care if someone is talking behind your back
- You don't pass on the dessert and then mooch off someone else's
- If you retain water, it is in a canteen
- The remote is yours and yours alone
- You need not pretend you're "freshening up" when you go to the bathroom
- If you don't call your buddy when you said you would, he won't tell your friends you've changed
- If another guy shows up at the party in the same outfit, you might become lifelong buddies
- The occasional well-rendered belch is practically expected
- If something mechanical didn't work, you can bash it with a hammer and throw it across the room
- New shoes don't cut, blister, or mangle your feet
- You think the idea of punting that small, ankle-biting dog is funny
- Any problem you have with your mate can be summed up in one sentence without the use of commas or semicolons.
- Whoopee is a naturally good thing that requires no preparation, dances, rituals, cremes or salutations
- "I was just kidding" assuages most insults instantly.
- You think about whoopee all day!
- You don't think about problems associated with women all day

LOADSTAR LETTER #63

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